likewise not inconsiderable amounts of steam are created in the gas and its quality further diminished.

Therefore the most weighty consideration for the working of a producer is that only so much steam should "be added to the air suPply as is necessary for the reduction of the temperature to 1,150°, whereby always the prevention of sintering of ashes will be well achieved* If, however, the cessation of this condition is carefully looked out for, then is spared also the (often too much asked for) cheek on the steam content of the producer gas.

With regard to the steam content of producer gas, attention will be devoted also to the raw fuels. For all fuels, which contain little combined and hygroscopic water, one will take suitable care, in the winning and storage thereof, that the taking up of water, which will be brought about by atmospheric influences, remains small. In fuels, however, which contain too much water, and in those which must involve cooling of the gas and removal of the water by means of condensation, as is involved in the employment of wood and peat, an excess of water up to a known amount is convenient, in that it lowers the temperature of the gas and thereby facilitates condensation. In regard to the condensation, it is, however, to be'weighed in one's mind always that gases saturated with moisture proceed from the same, and that they will only furnish a good degree of working, if the chilling is driven to a sufficiently low temperature.

1 cubic metre gas at 0° and 760 millimetres pressure is able to take up, viz., about At 0° 0. 5 grammes HgO At 60° 0. 190 grammes H2O

10° 20° 30° 40° 50°

19

36

62

110

70°

n 7a° „ 80° » 90°

350 490 700 1,800

From which it follows that the chilling in a hot summer must at the least be brought down to 40° to 50° in order to permit of the desired result.